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Original Research Article

Religion and Subjective Well-Being: Evidence from PSM Approach

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While some research projects have been done into the guidelines for and inefficacy of religious involvement in subjective well-being (SWB), it has been well-argued that religious involvement should be more considered as one of the key elements triggering off SWB. The current study examines the possible relationship between religious involvement, religious attendance, religious beliefs, and SWB among male and female groups. The relationship between the variables and SWB was investigated through Propensity Score Matching (PSM) and Nearest-Neighbor Matching (NNM). The sample consists of people aged 18 and over in fifteen districts of Isfahan in the year 2020 (N=363). Our analysis shows a robust influence of religious involvement, religious attendance, and religious beliefs on SWB in a framework of multivariate logistics which controls for education, gender, income, and disabilities. Moreover, in contrast to other studies, the findings indicate equal efficacy of religion for both men and women. In addition, findings show that Muslim individuals are happier and more satisfied with life than non-Muslim or non-religious people. We suggest that the influence of religious organizations and communities on the process of happiness and welfare as well as the function of these elements be highlighted as areas for further studies.

Keywords: Religion, Subjective Well-Being, Propensity Score Matching, Isfahan
JEL Classification: C12, C40, I31, Z12

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1 Introduction

Several types of researches have clearly proved that religion in overall and Islam, in particular, is considered to be among the key and most important elements of happiness, optimism, meaning, better mental health and enhanced feelings of subjective well-being (SWB) across the life course (Zokaiy, & Morovvati, 2019; Darvishi, Omidi, & Esmat, 2016; Bargahi, & Kabiri, 2015; Koenig, McCullough, & Larson, 2001; Ellison, 1994; Hadaway, 1978). Some papers have demonstrated that religious activities and religious participation

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are both positively related to SWB (Nili, & Babazadeh, 2012; Moberg, 1972). Religious involvement has also been linked to work ethic (Feess, Mueller, & Ruhnau, 2014), hardworking behavior (Elci, Sener, & Alpkan, 2011), volunteering (Binder, & Freytag, 2013), traumatic life events (Ellison, 1991), happiness (Cohen, 2002), income inequality (Elgin, Goksel, Gurdal, & Orman, 2010) and size of the governments (Kamali, Abdollahi, & Qobeyshavi, 2019). This research, in this regard, provides the first representative illustration in terms of religiosity and SWB for the case of Isfahan, Iran, the world's leader of Muslim societies.

On the other hand, SWB is related to the scientific analysis of how people evaluate their own lives (Kosher, & Ben-Arieh, 2017). These evaluations include people's view on SWB, positive elements that increase economic prosperity, and judgments they form about their fulfillment and overall life satisfaction (Diener, Oishi, & Smith, 1999). The concept of SWB contains three different elements, i.e. affective SWB, psychological SWB, and cognitive SWB (Rees, & Main, 2015). The questionnaires of the present paper aimed to tap cognitive SWB, meaning people's evaluation of their life, and psychological well-being evaluated by the Propensity Score Matching (PSM) technique.

A pioneering analysis of the interplay between religiosity and SWB to date shows that researchers have used various econometric techniques in this area to determine the variables affecting the SWB of societies and come to the aid of their economic politicians. This research has been done while most economists have neglected the cradle of revelation as a source of prosperity and well-being of societies. A case in point is verses 26-27 of Isra chpater in which God (SWT) instructs Muslims not to spend too much, but to spend in the way of God.[1] Some of the other guidelines provided by Islam are about how and what to trade, how to communicate with others, and what to consume.

Moreover, previous research has focused on the relationship between religiosity and elements other than SWB, or on a particular religion other than Islam (Kosher, & Ben-Arieh, 2017; Chen, & Williams, 2015; Dastjerdi, & Nazarpour, 2014). Or they have made a comparison between two or more religions (Lim, 2016; Shiah, Chang, Chiang, & Tam, 2014). This paper attempts to show, in almost every particular, that the relationship between

[1] وَ آتِ ذَا اَلْقُرْبى حَقَّهُ وَ اَلْمِسْكِينَ وَ اِبْنَ اَلسَّبِيلِ وَ لا تُبَذِّرْ تَبْذِيراً؛ إِنَّ اَلْمُبَذِّرِينَ كانُوا إِخْوانَ اَلشَّياطِينِ وَ كانَ اَلشَّيْطانُ لِرَبِّهِ كَفُوراً.

(O man!) Give to the relatives their due right and also spend on the needy and the wayfarer; but do not spend your wealth wastefully. Verily, the squanderers are the brothers of the devils and Satan was ungrateful to Allah (so his followers will be the same).

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Islam and SWB of Muslim individuals has been investigated using a valid econometric technique. Engrossing in studies concerning religions other than Islam (Green, & Elliott, 2010) or the study of variables apart from consumer SWB (Lam, 2006) triggered off examining the relationship between religiosity and consumer SWB as a leader to a broader and more complete portrait of Muslims' consumer behavior.

Given the necessity identified by Clark and Lelkes (2006), the study seeks to identify the possible relationship between SWB, psychology SWB, and cognitive SWB, a relationship that has constituted the hypothesis of the paper. Well-being in this paper refers to self-reported conditions evaluated by the PSM technique. Some of the research questions are derived from the Allport and Ross (1967) questionnaire-based paper, and the study intends to shed light on the processes involved in religious activities. The aim of the present study was threefold:

- investigating how the level of religious involvement affects SWB
- identifying the factors affecting SWB in the statistical population
- Drawing attention to the extensive role of economist politicians in good policymaking.

In this regard, to better understand the relationship between religiosity and SWB, the scope of research in this study has been developed with respect to the dimensions of religion ignored in other studies. A closer look at the literature on religiosity shows that the meaning of religion has never been clearly defined. The late Allameh Tabatabai considers religion, in the Qur'anic term, as a social tradition the instructions which are followed in society (Tabatabai, 1999, vol. 11, p. 281). In this study, religiosity is defined as a process in which a person tries to pursue a feeling and purpose in life, a feeling and purpose that makes the reason for a person's existence in this world believable and justifiable. According to the noble verses of the Holy Qur'an, this goal can only be servitude to the Divine Essence. Referring to this fact in verse 56 of Surah Dhariyat, Allah (SWT) says: " I created Jinns and men and ordained for them to worship me (to prove the victory of the truth over falsehood i.e., the victory of Allah over Satan, through the pious and the righteous worshippers)."[1] The purpose of the prophetic missions is to cultivate and educate man to help him reach the lofty peak of servitude. As Allah (SWT) in verse 2 of Surah Al-Jumu'ah says: "Allah is the one who sent among the illiterate people a messenger from among themselves to recite to them his

[1] وَ ما خَلَقْتُ اَلْجِنَّ وَ اَلْإِنْسَ إِلاّ لِيَعْبُدُونِ

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words of revelation, in order to purify them from the dirt of disbelief and paganism; and to teach them the book of truth and wisdom, though they had been before in a gross error."[1] Undoubtedly, the ultimate goal of Islamic economics should be to explain the ways of fulfilling the necessary economic requirements for the voluntary movement of people in line with this goal. This study has been done by using various variables in explaining religiosity and its relationship with the SWB and measuring the effects of religiosity on the SWB in different ways. The meaning of religiosity and how it affects the personal consumption of a Muslim has been stated from the perspective of Islam.

The following pages will deal with the literature review. Section two presents the methodology of the paper, section three explains the estimation results, and the final section presents conclusions and implications.

2 Literature Review

SWB is a broad category of phenomena that includes people's emotional responses, domain satisfaction, moods, and emotions of global judgments of life satisfaction (Diener, Oishi, & Smith, 1999). So the well-being concept can encompass a much wider range of information such as social indicators (Rees, & Main, 2015). This research, on the one hand, is related to the field of religion and enters the field of Islamic economics on the other hand. Also in this study, the approach of religion in cultivating talents and directing them towards SWB is scrutinized in contrast to the conventional economics approach. Therefore, first, the background of the subject in Islamic economics will be illustrated and then the paper will shed light on the studies conducted in the field of conventional economics.

2.1 Islamic Economics

A direct report of SWB may have a useful role in the measurement of consumer preferences, and social welfare if they can be done credibly. Indeed, Kahneman and Krueger (2006) indicate that “economists have already made much use of SWB data. From 2001 to 2005, more than 100 papers were written analyzing data on self-reported life satisfaction or happiness” (p. 3). There is, nevertheless, a modicum of research in Islamic economics related to religiosity and SWB. In addition, to being limited in number, research has

[1] هُوَ اَلَّذِي بَعَثَ فِي اَلْأُمِّيِّينَ رَسُولاً مِنْهُمْ يَتْلُوا عَلَيْهِمْ آياتِهِ وَ يُزَكِّيهِمْ وَ يُعَلِّمُهُمُ اَلْكِتابَ وَ اَلْحِكْمَةَ وَ إِنْ كانُوا مِنْ قَبْلُ لَفِي ضَلالٍ مُبِينٍ

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often been carried out based on some obsolete econometric techniques with several drawbacks. Here are some of them.

Soleimani, Kiani, and Abedi (2019), in an article titled "a study of the potential effects of religiosity on subjective poverty in Iran" have examined the relationship between religiosity and its corresponding concept, subjective poverty, as a perception of poverty. Using the results of the fourth wave of the study and assessment of Public Culture Indicators in 2012 with 17,000 samples for the population over 16 years in 31 provinces of Iran, these researchers have examined the relationship between religiosity and mental poverty. To measure this relationship, the PLS regression method was used, and the results showed that religiosity had a significant and inverse effect on subjective poverty; in other words, promoting religiosity reduces the feeling and perception of subjective poverty. Also, a significant relationship between subjective poverty, income, and trust variables was among the results of this study.

In another article, Kalantari and Hosseinizadeh (2016) studied the relationship between religiosity and mental health. The research employed a survey method and the statistical population of the study included all citizens over the age of 18 in Tehran, 524 of which were selected by multi-stage cluster sampling. Data were analyzed using SPSS software. The findings indicated that the amount of religiosity in most of Tehran's citizens is increasing, and most of them have desirable mental health.

Analyzing several variables that affect the well-being of the Iranian people, Nili and Babazadeh (2012) demonstrated that religious beliefs are also among the factors that affect the level of well-being. By analyzing micro-welfare data related to 4620 observations collected in 2003 and 2005, researchers identified the factors affecting well-being in Iran and examined the symmetry impacts of these factors by gender. In general, the findings of the study indicated the impact of factors such as religious beliefs, income, employment status, personal health, family relationships, age, and gender on the level of well-being of Iranian citizens.

In a study using the post-event and correlational method, Hatami, Hobbi, and Akbari (2009) investigated the effect of religiosity on life satisfaction in general and martial satisfaction in particular. The statistical population of the study consisted of 370 married Revolutionary Guards in the IRGC who were selected by using the Appropriate Class Sampling method. The results showed that the three dimensions of belief, consequence, and emotion have a stronger relationship with personal satisfaction. In fact, people have a stronger

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religiosity in three dimensions of belief, emotion, and consequence than in other dimensions.

2.2 Conventional Economics

A review of research on religiosity demonstrates how a wide range of variables has been studied with regard to religiosity. Variables from family relationships to people's aspirations and attitudes (Hungerman, 2011; Brown, & Tierney, 2008; Gruber, 2005; Dehejia, DeLeire, & Luttmer, 2005; Meier, 2003; Regnerus, 2003a). Nonetheless, most SWB studies have focused on non-Islamic religions, while interest in Islam's well-being concept has lagged behind and is treated as almost irrelevant (Arli, Gil, & Esch, 2019; Chandrasekaran, 2016; Francis, & Katz, 2003; French, & Joseph, 1999). In addition, there has been extensive research on the relationship between religiosity and well-being, which is referred to in a study by Robbins and Francis (1996). In some of these studies, the effect of religiosity on other variables has been evaluated as significant and robust. As Hummer, Rogers, Nam, and Ellison (1999) point out in this regard, “attending religious services seems to have a protective effect against the risk of death in individuals” (p. 274).

Robbins and Francis (1996) examined the relationship between religiosity and well-being using the Francis Scale presented by Francis and Stubbs (1987) among Oxford University graduates. The results of this study indicated a positive relationship between religiosity and well-being. Based on their assessment of graduate information, Robbins and Francis (1996) argue that “religious people are happier and more satisfied in life than non-religious people” (p. 207). Despite the researchers' emphasis on the positive relationship between religiosity and well-being, Robbins and Francis (1996) believe that the evidence for a positive relationship between religiosity and well-being is not always consistent. A variety of econometric techniques have been used to measure the relationship between religiosity and other variables. In addition, the lack of a positive relationship stems from an apparent lack of an operational and coherent definition of religiosity.

Nevertheless, some studies related to religiosity consider that well-being and religiosity are not always related to each other. Kim-Prieto and Miller (2018) found out that 21 out of 100 research papers that they studied reported a negative relationship, including 2 out of 12 which included prospective cohort studies. A review of the literature suggests that two issues may have contributed to this problem. The first one is the cultural framework in which the relationship between religiosity and well-being has been examined.

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Second is the instruments and techniques by which this relationship has been studied. In this study, the aim is to achieve a better understanding of the relationship between religion and SWB by simultaneously considering the cultural context and measuring the key variables through an econometric method with the fewest problems.

Moreover, a review of research related to religiosity and well-being shows that the effects of belonging to a religion, participating in religious ceremonies, and believing in the effects of religion in life could not be investigated well by using conventional regression methods, focusing on the average effects of explanatory variables. In fact, when considering the potentially influential effects on the relationship between religiosity and SWB, the results show that religiosity plays a very important role in SWB, which has not been properly addressed in these studies.

A review of studies on religiosity shows that as an integrated system (Delener, 1990), religion is able to be well thought as a folk constituent that is of particular standing to various people. Religions for the most part reveal dissimilar cultural conceptions, though they're poles apart in some positions and consequently unalike views, approaches, and behaviors, but what is specifically mentioned in this study is the positive impact of Islamic attitudes and beliefs on the SWB of the Muslim. In addition, previous research on the relationship between religiosity and other variables, has either focused on a particular religion relative to other variables (Tsalikis and Lassar, 2009; Swimberghe et al., 2011; Putrevu and Swimberghe, 2012) or have done an assessment amongst two or several religions (Choi, 2010). Using a valid econometric technique, this study specifically investigates the relationship between Islam and the SWB of Muslims. Because of the focus of studies on religions other than Islam or variables other than SWB, examining the relationship between religiosity and SWB can lead to a broader and more complete understanding of Muslim consumer behavior.

So what is specifically mentioned in this study is the positive effect of Islamic attitudes and beliefs on Muslim's SWB. In addition, previous research have focused on a particular non-Islam religion (Minton, Xie, Gurel-Atay, & Kahle, 2018; Ng, & Fisher, 2016; Hoverd, & Sibley, 2013; Rosmarian, Pargament, & Mahoney, 2009; Ardelt, 2003; Emmons, Cheung, & Tehrani, 1998; Shaver, Lenauer, & Sadd, 1980) or have drawn comparisons between two or more religions in terms of SWB (Chen, & Williams, 2015; Graham, & Crown, 2014; Lun, & Bond, 2013; Eid, & Larsen, 2008; Abdel-Khaled, 2006; Diener, & Clifton, 2002; Seybold, & Hill, 2001). In this study, in particular, the relationship between the religion of Islam and the Muslim's SWB has been

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investigated using a valid econometric technique. Hence, due to the focus of studies on religions other than Islam or the study of variables other than Muslim SWB, examining the relationship between religiosity and Muslim SWB can lead to a broader and more complete understanding of Muslim SWB.

3 Method

3.1 Participants

Using the survey method and based on the Propensity Score Matching (PSM) technique, the present study investigates this issue based on the data collected in 2020 through the self-report questionnaire technique. Due to the preventive nature of the study and the well-documented benefits of religious involvement, participation in the study was voluntary. The observation unit of the study included all people over 18 years in Isfahan, and because of the impossibility of analyzing and examining all members of the statistical population, the sample size with a coefficient of +5 and -5 and a confidence interval of 95% was calculated as including 363 people. In the present study, cluster sampling was used to select a number of sampling areas from among the fifteen districts of Isfahan. Then, from these sampling areas, the required number of samples was selected. The reliability of the research instrument was also measured based on Cronbach's alpha method. Table (1) in the appendix gives full information about the samples.

Estimators used in econometric and statistical research can be classified into two categories: 1: developed by the researcher, 2: taken from previous literature. Using the second approach seems better because these estimators are fully proven, they have been tested many times in different contexts and have also been used in numerous studies. In addition, the use of fully established estimators can ensure the reliability and validity of the research. This research uses the PSM method which is classified in the second category.

It is a non-parametric approach in statistical analysis and is based on statistical matching used to estimate the impact of an experiment, policy, or other intervention tools. Soltanzadeh et al. (2018) state that “the most important goal of the PSM method is to try to reduce the amount of bias caused by the interfering factors in an experiment. In other words, this method is preferred to other statistical methods such as pairwise comparisons because of the omitted variable bias resulting from the "winner’s choice" approach in policy making” (p. 23).

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In fact, "one of the serious flaws that occur in econometric models is due to the fact that some explanatory variables are endogenous and the estimated parameters are skewed. The PSM method can remove this bias" (Philsaraei, 2015, p. 5). This model has been significantly developed by Rubin's extensive research (1978; 1977; 1974). In fact, this method relies on the statement which all of the leading causes associated to the outcome variable such as the desirability of consumption for the participants (Muslims) and non-participants are taken into account. The sample includes a wide range of information such as different levels of income, household consumption, education, and health.

3.2 Model Specification of Religion and SWB

Based on the research by Zotti and Barra (2016) and Kalantari and Hosseinizadeh (2016), four main religious indicators have been used in this research to explain the effect of the variable of Islam on the SWB. In the first stage, participants are asked whether they consider themselves committed to a particular religion (Islam) or not. (See table 2 in the appendix). In fact, this question asked people whether or not they consider themselves as belonging to the religion of Islam. The answers were measured with 1 if the person belonged to the religion of Islam and with 0 if the person did not express his/her belonging to the religion of Islam.

In the second stage, those introducing themselves as believers in Islam are examined in terms of the four indicators of religiosity including doctrinal, ritual, experimental, and consequential dimensions. The doctrinal dimension includes the beliefs that followers of Islam are expected to hold. The ritual dimension includes specific religious practices such as worship, prayer, participation in special rituals, and fasting expected to be performed by followers of Islam. The experimental dimension refers to the emotions, perceptions, and feelings associated with having a divine relationship with God or ultimate reality or transcendent authority. Finally, the consequential dimension refers to the effects of religious beliefs, practices, experiences, and knowledge on the daily lives of the followers of Islam. The key question regarding the doctrinal dimension includes the belief in the Divine Essence. The ritual dimension examines the effect of religious practices on SWB. The key question of the empirical dimension is meant to understand the positive relationship between practicing and believing in Islam and SWB. Finally, the consequential dimension refers to believing in the positive effects of religiosity on the SWB. Responses to these four dimensions are categorized with the numbers 1 to 7, with number 1 indicating the lowest effect and the

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number 7 indicating the highest (see tables 3 to 6 in the appendix). In addition, these dimensions have a wide subset some of the most important of which are mentioned below.

In the third step, the participants were asked to state the extent of their participation in religious ceremonies (attendance). The question asked how often they attended religious meetings. Individuals' answers are scaled from 1 to 4 according to their presence. The dual variable at this stage is 1 if the person has tried to participate in religious ceremonies at least once a week or more and 0 for otherwise.

The fourth step is designed to measure individual religious beliefs. At this stage, people are asked how much difference religious beliefs have made in their life. The possible answers are a big difference (number four), no difference (0). The dual variable at this stage is 0 if the person states that religious beliefs have got a less difference in her/his life and 1 if the otherwise is stated.

The fifth indicator is formed based on the fact that the person believes in Islam and feels that religious beliefs have made a big difference in his/her life but he/she is rated at a low religious level (Religion/Beliefs) because of performing the rituals of Islam less than once a week.

The sixth index examines a person who believes in Islam and at the same time, believes that his/her religious beliefs have made a big difference in his/her life. This person is assessed as moderately religious (religion/attendance), because he/she has adhered to his/her religious rituals once; for example, he/she has attended a mosque once a week.

The seventh indicator explains the relationship between the cognitive and doctrinal foundations of religiosity as well as their relationship with the level of SWB. Accurate measurement of this indicator can largely determine the level of SWB of Muslims. In this regard, a key question in examining Cognitive/Belief well-being concerns the extent people believe in the presence of the Divine Essence of the Almighty in their lives. With regard to this indicator, the responses are numbered from 1 to 9, with number 1 indicating a feeling of God's presence the least in life and number 9 indicating feeling the presence of God the most.

The eighth indicator examines the extent to which people know about religion and its impact on their behavior (Cognitive/Religion). In fact, this index is indirectly related to SWB and initially examines the degree of adherence to beliefs. One of the key questions is related to the emptiness or the meaningfulness of people's lives. In this regard, people have been asked how absurd and meaningless their lives are in the absence of religion. Possible

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answers are categorized from 1 to 9, with 1 indicating the least impact of religion in life and 9 indicating the most impact.

This index examines the impact of religious beliefs on adherence to them (Cognitive/Attendance). In this regard, people have been asked: "considering all the hardships and misfortunes of their lives, to what extent have your religious beliefs affected your adherence to acts of worship?" Possible answers are categorized by numbers 1 to 7, with number 1 showing the least effect and number 7 showing the most effect.

The next index only pays attention to the psychological and mental dimensions of individuals and considers the relationship between religiosity and SWB (Cognitive/Psychology). In this regard, people have been asked: how much do you think your religious beliefs affect your well-being and peace of mind, given all the hardships and misfortunes of your life? The possible answers are categorized from 1 to 9, with number 1 indicating the least impact and number 9 indicating the most impact.

And finally, the last index examines people who believe in Islam and believe that their religious beliefs have made a big difference in their lives (Full Belief). These individuals are rated as having a high level of religiosity because they participate in individual or collective religious ceremonies once a week or more.

In general, the four main religious indicators have been used to explain how the variable of Islam influences the SWB. In the first stage, people are asked whether they consider themselves committed to a particular religion (Islam) or not, (see table 2). In fact, the question for people is whether they consider themselves as belonging to Islam or not. Answers are measured with the number 1 if the person belongs to the religion of Islam and with 0 if the otherwise is true. In the second stage, the four indicators of religiosity, namely ritual, doctrinal, experimental, and consequential dimensions, are examined in people who have introduced themselves as believers in Islam.

3.3 Instrument and Analysis of Religion Measurement

Methods of measuring religiosity include observation, questionnaire, and projection. Observation is the most primitive and oldest method for measuring religiosity. Recording the time people entry to and exit from religious places as well as observing their behavior while praying and performing acts of worship are examples of this method. Another common method of measuring variables in the humanities is projection. The central idea of projection methods is to refer to individuals' subconscious minds. Projection tests are based on the premise that vague stimuli cause individuals to automatically

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reveal their desires, inclinations, and interests. The last method of measuring religiosity is a questionnaire. This data collection instrument consists of several questions or propositions that people are asked to comment on in a range of answers from strongly agree to strongly disagree. In studies related to measuring religiosity, the most common method for measuring religiosity is a questionnaire. 46% of the research conducted in the 1950s was done using this method (Khodayari-Fard et al., 2012). In this regard, Zandi et al. (2019) state that "one of the most reliable and the most widely used scales for measuring religiosity is the Allport and Ross questionnaire scale. Various extensive studies have used this scale as a valid and reliable scale" (p. 195).

Most of the empirical evidence found in the literature on the relationship between religiosity and SWB is based on correlative studies. In other words, the interpretation of this relationship and the cause and effect direction between religiosity and SWB are not dealt with in these researches. As Regnerus and Smith (2005) point out, the potential endogenous problem associated with the concept of religiosity may arise in several ways. In fact, "people themselves choose the degree of the importance of religion in their lives and, based on that, decide on the role of religion in their decisions and life issues. As a result, they may consider themselves less religious for various reasons including those that have nothing to do with the content of religion itself. Such reasons may include personality type, age, race, ethnicity, and cultural background" (Smith, & Regnerus, 2005, p. 24). As a result, if these reasons also affect the reported SWB, then there is a possibility of attributing totally unrelated things to religiosity.

In addition, a person might introduce himself/herself as a believer in religion, but the connection between religion and attention to religious activities and SWB might be largely the product of the opposite cause of this relationship. However, research evidence in this area clearly shows that the relationships between religiosity and its specific results for people cannot undermine the link between religiosity and SWB[1].

Following Zotti and Barra (2016) and Brown and Tierney (2008), assume that the individual bilateral relationship between religious involvement and SWB, depends on both cognitive and psychological aspects in each period of life, in this model we propose the following model for measuring the effects of religion on SWB:

[1] To see the results, we can refer to the article (Smith and Regnerus, 2005).

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$$SWB_i = \beta REL_i + \delta X_i + \varepsilon_i$$

where SWB_i measures the SWB, REL_i indicates the measurement of a person's religious beliefs and religious affiliations, X_i also takes explanatory variables such as age and economic variables, and finally ε_i is the error term. In the first step, considering the reported level of SWB in the questionnaires, the equation is estimated using the Nearest-Neighbor Matching (NNM). Regressions are run correcting the covariance matrix for intra-reference group correlation, in order to avoid the so-called "Moulton problem" (Carrieri, & Paola, 2012; Moulton, 1986).

Vector X_i includes the control variables that are examined below, first including gender (dummy variable of 1 if the individual is male), age, and marriage (dummy variable of 1 if the individual is married). Next, some variables of human capital are examined. These variables include employment (a dummy variable of 1 if the person is currently employed), education (elementary school, middle school, high school, diploma, associate diploma, bachelor's degree, master's degree, and doctorate), financial status (a variable on a five-point scale measuring whether living conditions are very difficult, somewhat difficult, just making enough money to pay for essential things, normal or effluent). Individual health status is also controlled through health status (in this case, a variable on a five-point scale examining the health status of people as very poor, poor, moderate, good, and excellent), and disability (a dummy variable measured by the number 1, which is, in fact, a representation of whether the person suffers from any disability.) In addition, in order to control stress, a dummy variable of 1 has been measured in negative events such as divorce or the death of relatives. These variables have the potential to reduce the deviation of test results caused by random conditions[1].

3.4 Propensity Score Matching Technique

To evaluate the effects of the indicators expressed in the previous section, first, we start by analyzing the relationship between religiosity and SWB in a series of fixed-effects regressions. In particular, we use social variables to control for any variance because the religiosity variable might be affected by individuals' religiosity for social reasons. Due to defenselessness of fixed-

[1] The ability of such variables is described in detail in the article (Ferrer, 2005; McBride, 2001).

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effects towards self-selection (Oakes & Kaufman, 2006), up-controlling of sluggish-changing in some variables (Green, Kim, & Yoon, 2001; Beck & Katz, 2001), inference with none-supported features (Oakes & Kaufman, 2006), practical form stipulations (Hussinger, 2008) consequently, not straightforwardly agreeable to fundamental clarification of the phenomenon analyzed. As a result, second step deals with broad stipulation to maintain would-be foundations of bias. The paper attempts to evaluate fundamental influence of religion on SWB via PSM, an estimation technique that pays particular attention to the problem of self-selection and off-support inference (Binder, & Freytag, 2013). In fact, the PSM method has been used to compare the results of the responses of people who claim to believe in Islam, attend religious services, and hold to their religious beliefs and those who do not.

The idea of this methodology is based on an assertion of mutual relationship between outcome variable and factors playing a role in the influence of religiosity on the SWB are observed for participants (people who believe in Islam), and non-participants (people who do not believe in Islam). Another point about this method is related to the specific variables. In other words, this article seeks to compare the results of the responses of those who believe in Islam with the results of the responses of those who do not believe in Islam, without the compound differences that can be attributed to X.

In this study, by creating a comparative-cognitive group of religious and non-religious people and studying their observable characteristics gained through the questionnaire, the effect of these features on SWB has been measured. The effect of belonging to the religion of Islam, participating in religious ceremonies, and having strong religious beliefs differs in the values of the X index. In fact, when the aspects of the X-index are large and can be examined from different angles, we can act based on the PSM method defined by Rosenbaum and Rubin (1983).

Two important principles must be observed in using the PSM method. The first principle is related to the balancing feature of this method based on which for each score tending towards the indicators, the average distribution of X variables is the same between the two groups (people who believe in Islam and those who do not). The second principle refers to the fact that if we condition the result on the auxiliary variable (X), then the two groups of religious and non-religious people are equal according to Y (SWB). In other words, all the differences between religious and non-religious people are taken into account in their observed traits (Zotti, & Barra, 2016).

To distinguish the quality of the results from the matched samples, the auxiliary variable equilibrium is evaluated, which equilibrium means the

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likeness of the experimental scatterings of the auxiliary variable delimit the controlled and uncontrolled groups. Every auxiliary variable, the quality of mean matching and homogeneous bias ratio in two samples after and before the matching were examined, and at that time the meaninglessness of all regressors after and before the matching was evaluated.

Nevertheless, one could have doubts about the robustness of the two techniques, as they measure average effects. The third part of our analysis thus examines whether or not the focus on the conditional mean of the dependent variable provides a good summary picture of the religiosity and SWB relationship. Both fixed-effects regression and propensity score matching focus on the conditional mean of the subjective well-being variable, i.e. they average out any effect that might exist on the extremes of the subjective well-being distribution. In heterogeneous distributions, this might seriously under- or overestimate effects or even fail to identify effects at all (Binder, & Freytag, 2013, p. 101).

3.5 Robustness Checks

The main results of robustness tests are presented in (Table 9)[1] with propensity score matching (PSM) and nearest neighbor matching (NNM). The causal impact of religiosity on subjective well-being is 0.115 in t + 2 for propensity score matching (nearest-neighbor matching: 0.094 in t + 2) and it increases for those who continue to have attendance frequently to 0.181 in t + 4 (nearest-neighbor matching: 0.174 in t + 4; all significant at the 5%-level or better). Frequent attendance thus has a positive and sustained impact on individual well-being. On the contrary, sustained and frequent religious belief and attendance effort seem to be subject to increasing returns in terms of happiness. The results of both PSM and NNM tests (see Table 9 in the appendix again) confirm that religious people are happier than non-religious people due to their mental satisfaction with social life.

4 Results

The results of nearest-neighbor matching are presented in Table (7) in the appendix. These results confirm what has already been examined in the theoretical literature. These results confirm what has already been examined in the theoretical literature and people who believe in Islam are happier than non-believers, and have higher SWB. In fact, respondents who introduced themselves as religious believed that religion had made a significant

[1] Different thoughtfulness checks accomplished based on (Caliendo & Kopeinig, 2008).

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difference in their lives, or participated in religious ceremonies and activities had a positive SWB (shown in Table 7, columns 1, 2, and 3, these results are 0.124, 0.224 and 0.289 respectively and are significant at the 1% level). The study further examines whether or not the results change in cases where different levels of religiosity have been reported by individuals. For this purpose, three stages have been predicted. Low level: Adherence to religion and the belief that religion has made a huge difference in one's life. Intermediate level: Adherence to religion and participation in religious ceremonies. High level: Adherence to religion, believing that religion has made a big difference in one's life, and participating in religious ceremonies. The results indicate the statistical significance of the results and the positive relationship between religiosity and SWB (shown in Table 7 in the appendix, columns 4, 5, and 6, the results are 0.201, 0.298, and 0.387, respectively).

In Table (8), the paper demonstrates the outcomes of the matching stage. The results indicate that married people enjoy the highest level of life satisfaction and SWB, while people who have experienced divorce have the lowest SWB. In addition, health and financial status both have a significant impact on happiness and SWB. The education variable also has a statistically significant and negative impact. This result may be due to the fact that for higher levels of education, the effects (especially in equations where health status is included) are less considered. In fact, it promotes health education and thus, indirectly improves SWB, but the net effect of education (as well as the other variables) does not have such an effect on happiness[1]. In fact, the net effect of education on SWB has led to the conclusion that higher education leads to less emphasis on religion in later life.

5 Discussion and Conclusion

In this study, the relationship between religiosity and SWB was investigated. This study, in particular, emphasizes that the empirical evidence in the literature on religiosity and SWB is mainly based on correlation studies, while the positive relationship between religiosity and SWB might be the result of a lack of a causal interpretation of results, undefined differences, and indicators related to religiosity and SWB, or poor assessment of differences between religious and non-religious individuals. In fact, the explanations provided in other studies about this relationship may make one mistakenly attribute this effect to religiosity, while the relationship between religiosity and the

[1] For more information, see Hungerman (2011), and Helliwell and Putnam (2004).

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perceived SWB may be the result of possible alternative processes other than religiosity.

In the first step, using systematic logit, it was shown that religiosity has a positive relationship with SWB. In the second step, a causal interpretation of this relationship was presented. In fact, the effect of believing in Islam, joining religious ceremonies just the once or more per week, and have confidence in that religion makes a big change in one's personal and social life was estimated using the PSM technique. These effects could not be explained by conventional regression methods focusing on the average effect of explanatory variables, because like the previous research done in this area, there would be flaws. Therefore, PSM and NNM were utilized in this study.

In studying the relationship between religiosity and SWB, this study mainly focused on socio-religious aspects. According to this approach to examining the relationship between religiosity and SWB it can be concluded that religiosity can increase SWB, because people typically feel fit in to a community group or society. Religion is usually based on social action beside preceding inquiry in this field also shows that social relationships are among the most important factors in happiness and achieving the SWB. In other words, social networks and religious identities with strong roots such as religious activities, religious beliefs, and attendance at mosques are the main variables and mediators of a positive relationship between religion and SWB. In fact, it is easier to achieve SWB and prosperity in a society where people have alike beliefs, and outlooks and are identified with the similar ethical values. Religious people seems to be happier for the reason that they particularly more keen to religion ceremonies and establish friendly public nets in their communities and in relation to another. But how religious organizations and communities influence the process of desirability and increase SWB are issues suggested to be investigated in future research.

In general, religiosity has sparked intense debate in various disciplines, including management, psychology, and anthropology. However, there is no standard, agreed-upon scale for measuring religiosity in these studies. Some of these shortcomings are rooted in the fact that religion is a multifaceted phenomenon whose effects on SWB may occur in a variety of ways. This study has been done by using various variables in explaining religiosity and its relationship with the SWB and measuring the effects of religiosity on the SWB in different ways. The meaning of religiosity and how it affects the personal consumption of a Muslim has been stated from the perspective of Islam.

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Appendix

Table 1
Descriptive statistics

Variables	Mean	Sd	Min	Max
Life satisfaction (1-7)	6.244	2.227	1	7
Life satisfaction (0-1)	0.681	0.313	0	1
Attitudes toward life	-0.541	1.565	0	7
Social Life satisfaction (1-7)	5.102	2.703	1	7
Social Life satisfaction (0-1)	1.667	1.431	0	1
Religious	0.547	0.990	0	1
Attendance	0.357	0.428	0	1
Education	8.002	6.322	0	9
Beliefs	0.221	0.411	0	1
Religious/Attendance	0.022	0.321	0	1
Religious/Beliefs	0.195	0.107	0	1
Cognitive/Beliefs	0.258	0.256	1	9
Cognitive/Religion	0.236	0.523	1	9
Cognitive/Attendance	0.264	0.245	1	7
Cognitive/Psychology	0.311	0.218	1	9
Full Religious	0.959	0.775	0	1
Gender	0.400	0.399	0	1
Health Situation	4.009	1.901	1	5
Financial Situation	4.009	0.899	1	5
Children	0.531	0.391	0	1
Education	4.101	2.651	1	7
Married	0.691	0.932	0	1
Divorced	0.247	0.911	0	1
Widowed	0.329	0.612	0	1
Age	467	28.943	18	98
Age Squared	2004.617	1091.004	206	10412
Employed	0.407	0.595	0	1
Physician visit	0.421	0.502	0	1
Self-employed	0.263	0.411	0	1
Housewife	0.122	0.111	0	1
Isfahan	0.495	0.599	0	1
Voluntary	1.571	1.014	1	5
Stress	0.156	0.421	0	1
Disability	0.287	0.401	0	1
Risks	6.901	3.008	1	10
Observations	363			

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Table 2
Religions' specification

Religion	Frequency	Percent
Islam (Shia)	298	82.09
Islam (Sunni)	17	4.68
Islam (others)	2	0.55
Christians (Western & Eastern)	25	6.89
Baha'is	13	3.58
Jews	5	1.38
Zoroastrians	2	0.55
Others	1	0.28
Total	363	

Table 3
Belief in the essence of the divine sanctuary (Doctrinal Dimension)

Scales	All respondents		Muslims		Non-Muslims	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
1	48	(13.22)	37	(11.67)	11	(23.91)
2	63	(17.36)	57	(17.98)	6	(13.04)
3	56	(15.43)	39	(12.30)	17	(36.96)
4	57	(15.70)	49	(15.46)	8	(17.39)
5	32	(8.82)	31	(9.78)	1	(2.17)
6	48	(13.22)	47	(14.83)	1	(2.17)
7	59	(16.25)	57	(17.98)	2	(4.35)
Total	363		317		46	

Table 4
Effect of religious practices on SWB (Ritual Dimension)

Scales	All respondents		Muslims		Non-Muslims	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
1	10	(2.75)	3	(0.95)	7	(15.22)
2	11	(3.03)	8	(2.52)	3	(6.52)
3	19	(5.23)	4	(1.26)	15	(32.61)
4	25	(6.89)	24	(7.57)	1	(2.17)
5	99	(27.27)	96	(30.28)	3	(6.52)
6	121	(33.33)	106	(33.44)	15	(32.61)
7	78	(21.49)	76	(23.97)	2	(4.35)
Total	363		317		46	

Table 5
Participation in religious activities and SWB (Empirical Dimension)

Scales	All respondents		Muslims		Non-Muslims	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
1	14	(13.22)	10	(3.15)	4	(8.70)
2	10	(17.36)	7	(2.21)	3	(6.52)
3	19	(15.43)	15	(4.73)	4	(8.70)
4	52	(15.70)	50	(15.77)	2	(4.35)
5	98	(8.82)	94	(29.65)	4	(8.70)
6	142	(13.22)	121	(38.17)	21	(45.65)
7	28	(16.25)	20	(6.31)	8	(17.39)
Total	363		317		46	

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Table 6
Positive relationship between believing in Islam and SWB (Consequential Dimension)

Scales	All respondents		Muslims		Non-Muslims	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
1	39	(10.74)	9	(2.84)	30	(65.22)
2	17	(4.68)	14	(4.42)	3	(6.52)
3	32	(8.82)	27	(8.52)	5	(10.87)
4	14	(3.86)	13	(4.10)	1	(2.17)
5	90	(24.79)	89	(28.08)	1	(2.17)
6	97	(26.72)	92	(29.02)	5	(10.87)
7	74	(20.39)	73	(23.03)	1	(2.17)
Total	363		317		46	

Table 7
Nearest-Neighbor Matching (NNM) – Subjective well-being

	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Religious	0.124***					
	(0.025)					
Belief		0.224***				
		(0.054)				
Attendance			0.289***			
			(0.054)			
Religious/Beliefs				0.201***		
				(0.054)		
Religious/Attendance					0.298***	
					(0.069)	
Full Religious						0.387***
						(0.084)
Cognitive						0.058***
						(0.021)
Psychology					0.221***	
					(0.0125)	
Cognitive/Religion				0.214***		
				(0.084)		
Cognitive/Belief			0.204***			
			(0.045)			
Cognitive/Psychology		0.235***				
		(0.214)				
Cognitive/Attendance	0.391***					
	(0.092)					
Gender	-0.031	-0.047	-0.047	-0.045	-0.045	-0.047
	(0.032)	(0.035)	(0.035)	(0.034)	(0.032)	(0.037)
Health Status	0.654***	0.681***	0.681***	0.688	0.684***	0.689***
	(0.021)	(0.021)	(0.022)	(0.021)	(0.023)	(0.022)
Financial Situation	0.498***	0.502***	0.497***	0.493***	0.482***	0.492***
	(0.023)	(0.021)	(0.021)	(0.023)	(0.023)	(0.023)
Children	-0.024	0.008	0.036	-0.058**	-0.017	0.009
	(-1.14)	(0.47)	(1.47)	(-2.98)	(-1.12)	(0.38)
Education	-0.094***	-0.091***	-0.091***	-0.097***	-0.098***	-0.098***
	(0.013)	(0.012)	(0.012)	(0.013)	(0.013)	(0.013)
Married	-0.284**	-0.321***	-0.087	-0.194*	-0.365***	-0.209*
	(-3.21)	(-3.47)	(-0.54)	(-2.14_	(-4.12)	(-2.61)
Divorced	0.065	-0.089	-0.187	-0.214	0.067	-0.204
	(0.54)	(-0.47)	(-0.84)	(-1.04)	(0.74)	(-1.09)
Widowed	-0.354*	-0.348***	-0.248*	-0.234***	-0.327***	-0.301*
	(-2.28)	(-3.51)	(-2.48)	(-3.48)	(-3.91)	(-2.14)
Age	-0.067***	-0.062***	-0.062***	-0.061***	-0.060***	-0.060***
	(0.004)	(0.004)	(0.003)	(0.004)	(0.004)	(0.004)
Age Squared	0.002***	0.002***	0.002***	0.002***	0.002***	0.002***

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	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Employed	-0.008	-0.001	0.002	-0.008	-0.005	-0.009
	(0.048)	(0.046)	(0.046)	(0.052)	(0.047)	(0.0477)
Self-employed	-0.093	-0.037	-0.241*	0.0264	-0.068	-0.0853
	(-1.74)	(-0.41)	-2.61)	(0.43)	(-1.31)	(-1.61)
Physician visit	0.512***	0.517***	0.515***	0.519***	0.519***	0.519***
	(0.041)	(0.040)	(0.040)	(0.041)	(0.041)	(0.041)
Housewife	-0.007	-0.002	0.002	-0.007	-0.008	-0.009
	(0.043)	(0.039)	(0.039)	(0.039)	(0.039)	(0.039)
Isfahan	-0.045	-0.075**	-0.068**	-0.051	-0.034	-0.034
	(0.035)	(0.033)	(0.033)	(0.035)	(0.035)	(0.035)
Voluntary	0.047**	0.029	0.022	0.033	0.026	0.027
	(0.012)	(0.019)	(0.019)	(0.020)	(0.020)	(0.020)
Stress	-0.341***	-0.324***	-0.331***	-0.347***	-0.342***	-0.338***
	(0.085)	(0.079)	(0.079)	(0.085)	(0.084)	(0.084)
Disability	-0.297***	-0.295***	-0.263***	-0.287***	-0.258***	-0.258***
	(0.067)	(0.062)	(0.062)	(0.067)	(0.067)	(0.067)
Risks	0.053***	0.045***	0.044***	0.053***	0.054***	0.053***
	(0.014)	(0.013)	(0.013)	(0.014)	(0.014)	(0.014)

Table 8

Propensity stage for main propensity matching analysis. Factors influencing propensity to SWB

Probit regression			Number of observations = 363			
LR chi2(56) = 753.01						
Prob > chi2 = 0.0000						
Log likelihood = -5432.031			Pseudo R2 = 0.0571			
d-ntov	Coefficient	Std. err.	z	P > |z|	(95% Conf.	interval)
Attitudes toward life	-0.0014	0.0012	-3.14	0.001	-0.0067	-0.0017
Religious	0.0041	0.0148	0.28	0.774	-0.0217	0.0337
Attendance	0.0073	0.0013	3.99	0.0003	0.0047	0.0108
Education	-0.004	0.0001	-2.17	0.029	-0.0008	-0.0002
Beliefs	-0.0248	.1087	-0.65	0.458	-.2547	0.1354
Religious/Attendance	-0.8512	0.0951	-0.84	0.389	-0.2781	0.1245
Religious/Beliefs	-0.0124	0.0987	-0.18	0.952	-0.2135	0.1687
Cognitive/Beliefs	0.458	0.0954	0.52	0.621	-.1457	0.3339
Cognitive/Religion	-0.2510	0.2851	-0.96	0.321	-0.9851	0.2178
Cognitive/Attendance	-0.2142	0.2145	-1.52	0.241	-0.5841	0.2148
Cognitive/Psychology	0.4521	0.0254	6.45	0.000	0.2312	0.4752
Full Religious	0.5236	0.0512	10.25	0.000	0.5211	0.6521
Gender	0.1352	0.0210	4.54	0.000	0.0874	0.1876
Health Situation	-0.1547	0.0581	-1.65	0.089	-0.3215	0.0280
Financial Situation	0.0041	0.0125	0.21	0.44	-0.0214	0.0229
Children	0.3215	0.0621	6.21	0.000	0.2145	0.5142
ISCED levels	-0.2214	0.0951	-2.32	0.014	-0.4125	-0.0233
Married	-0.2117	0.0921	-2.31	0.014	-0.4048	-0.0294
Divorced	-0.1514	0.0465	-3.22	0.002	-0.2428	-0.0592
Widowed	-0.0263	0.0547	-0.48	0.623	-0.1247	0.0814
Age	0.0060	0.0017	4.67	0.007	0.0091	0.0292
Age Squared	-0.0002	0.0001	-2.14	0.028	-0.0009	-0.0000
Employed	0.4125	0.1542	2.47	0.004	0.1258	0.7413
Self-employed	0.1414	0.0179	3.01	0.001	0.0741	0.2781
Physician visit	-0.1102	0.0258	-1.24	0.214	-0.2517	0.0547
Housewife	0.1387	0.0621	2.10	0.027	0.0147	0.2604
Isfahan	-0.1344	0.0842	-1.45	0.145	-0.3214	0.0415
Voluntary	-0.1152	0.0581	-1.24	0.251	-0.2587	0.0654
Stress	0.0241	0.0045	5.87	0.0001	0.0174	0.0347
Disability	-0.0214	0.0514	-0.47	0.547	-0.1357	0.0841
Risks	0.0141	0.0021	3.14	0.004	0.0057	0.0148

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Table 9

Nearest-neighbor matching and propensity matching evaluates of the SATE. four matches are selected following (Binder, & Freytag, 2013) and (Abadie et al. 2004). For PSM, Average Treatment effects for the Treated (ATTs) given, based on the research by (Binder, & Freytag, 2013) and (Leuven and Sianesi 2003).

Propensity Score Matching (PSM)	
Lag t + 2	0.115***
SE	0.047
t-stat	3.47
lag t + 4	0.181*
SE	0.064
t-stat	2.14
Nearest-Neighbor Matching (NNM)	
Lag t + 2	0.094*
SE	0.035
z-stat	2.54
lag t + 4	0.174*
SE	0.044
z-stat	2.32

**p < 0.01
*p < 0.05
***p < 0.001

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